

Serial No. 09/641,654

TRW Docket No. 35-0017

a9
cont

pointing loci for all satellite/receptor dynamic combinations is easily and accurately calculated. There is no need for constant "hunting" and handshaking for acquisition. The receptor is simply told where and when to point, and passes along whatever it receives.

NB 10/24/06 Please substitute the following for the paragraphs beginning on page 29, line 19 1/6 through page 31:

At least three means of insuring data integrity (successful and complete data receipt) are available and implemented in system 10:

(1) Traditional error detection/correction overhead bits embedded in the data stream right on the satellite. (The usual digital communications procedure).

a/o

(2) By comparing a delayed (time-shifted) "checksum" (etc.) stream of each original data packet (embedded in the downlink stream, before receptor receipt and passage to the processing center) with a checksum calculated for packets as they arrive at the processing center. According to the preferred embodiment, every so often, the checksums of all previous packets collected in an orbit are sent as a burst along with the real time mission data. (This is a trivial impact on overall transmitted data rate, thus costing nothing in bandwidth.) So, when the processing center PC receives mission data, it also gets the checksums of all data sent for 100 minutes prior to that time. These delayed spacecraft-calculated checksums can be compared to checksums calculated again by the PC on the same data received after transmission. If there is a difference, then the suspect data can be requested for retransmission via the next command opportunity, since it is still resident and intact in the satellite SSR 24. This alleviates a remote but possible situation, of particular concern for military uses, of